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# NB vs WB Speech Study

2012 HLAA Convention

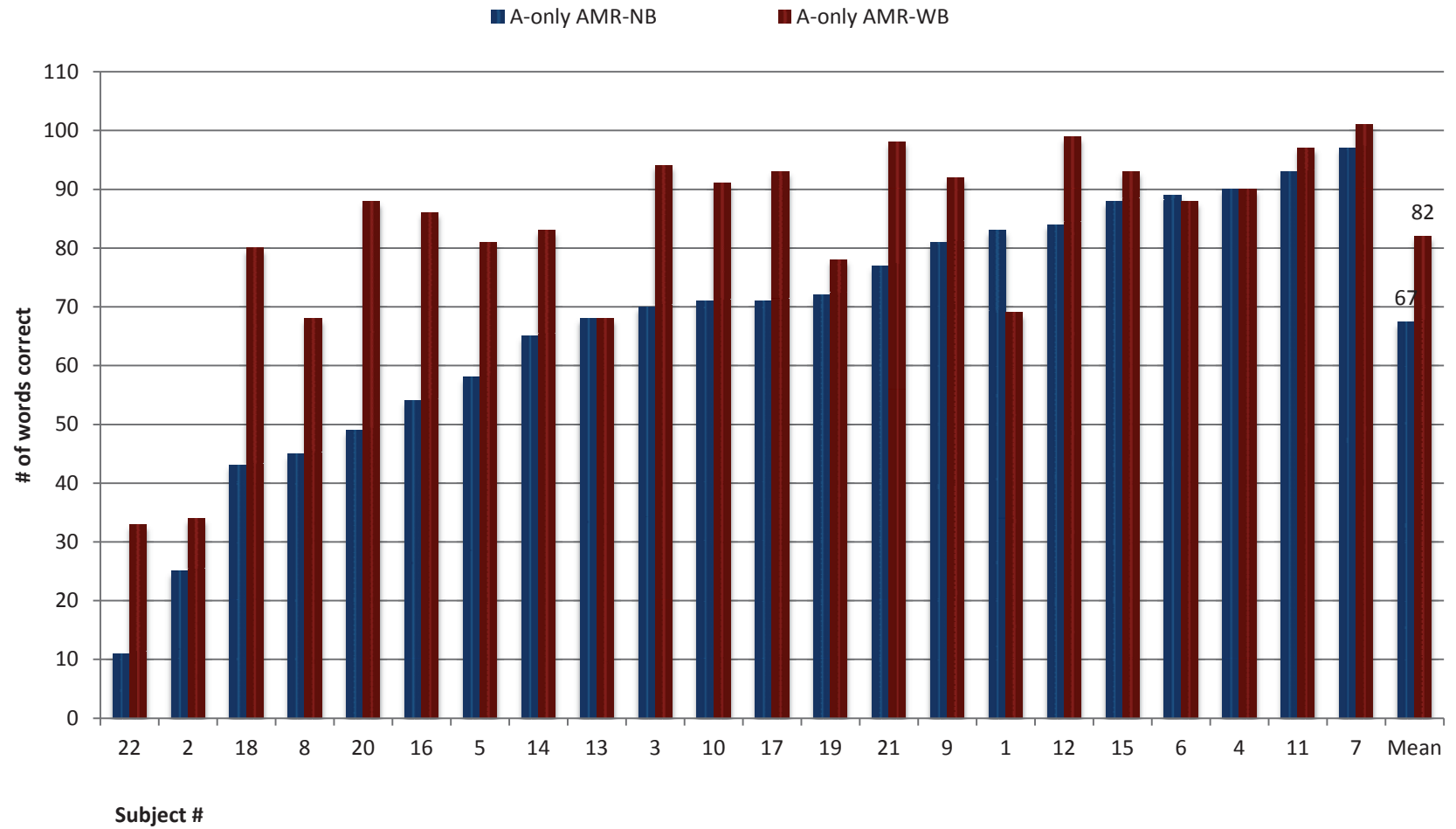
# Subjects: 22 Cochlear Implantees

- Gender
  - 16 Female
  - 6 Male
- Age (22 – 74 years)
  - 3 -under 45 years old
  - 13 -45 – 65 years old
  - 6 -65+ years old
- Hearing Device
  - 12 bilateral CI users
  - 5 unilateral CI users
  - 5 bilateral HD users (1 CI & 1 HA)

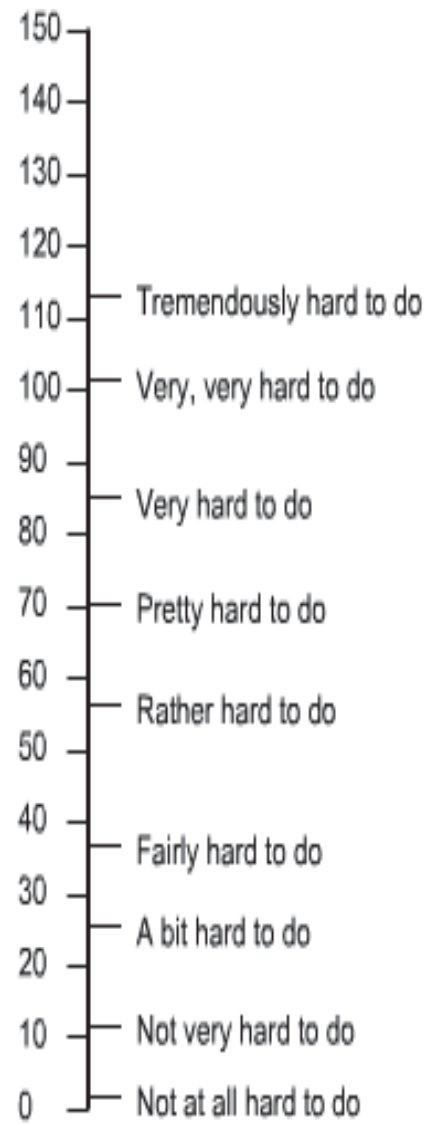
# Stimuli

- Sentence sets from the Computer Assisted Speech Perception Evaluation and Training Tool
- Scored as number of words correctly repeated per sentence set (102 total/set)
- 2 audio-only conditions
  - Narrowband telephone speech (AMR NB at 12.2 kBit/s)
  - Wideband telephone speech (G.722.2 at 23.85 kBit/s)
- Average presentation level of ~70 dB SPL at the location of the listener's head (simulated cell phone listening via speakerphone)

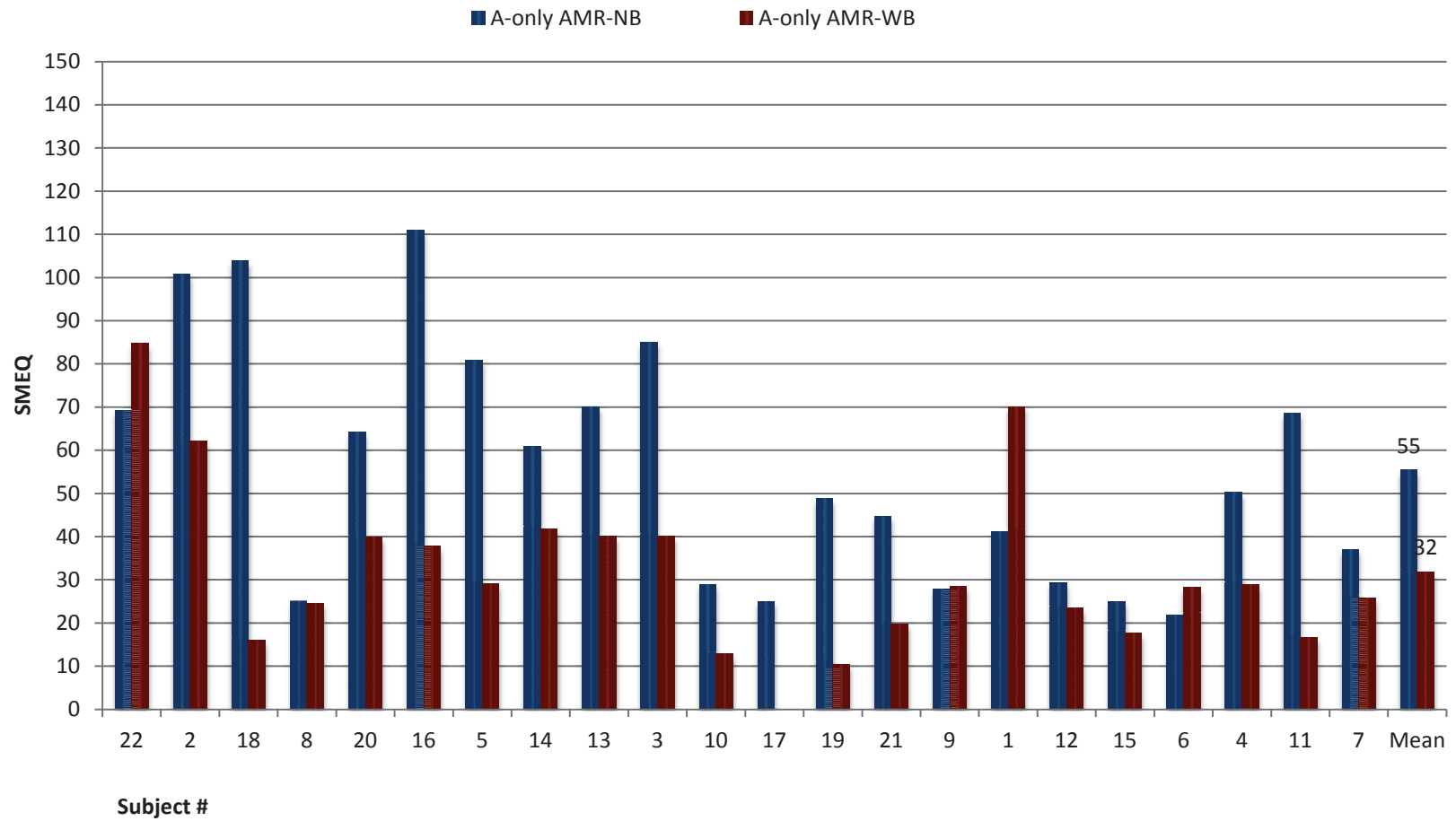
## Speech Understanding: Audio-only NarrowBand vs WideBand



## Subjective Mental Effort Questionnaire (SMEQ)



## Mental Effort: Audio-only NarrowBand vs WideBand



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